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2017 Natural Catastrophes in perspective

Fabrice Felden, Swiss Re

17 May 2018



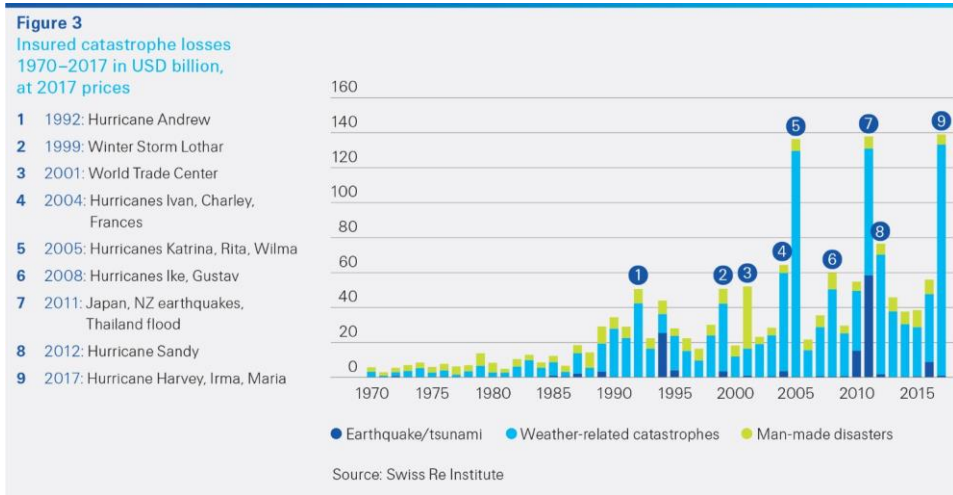
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Cats in 2017: the number's walk!

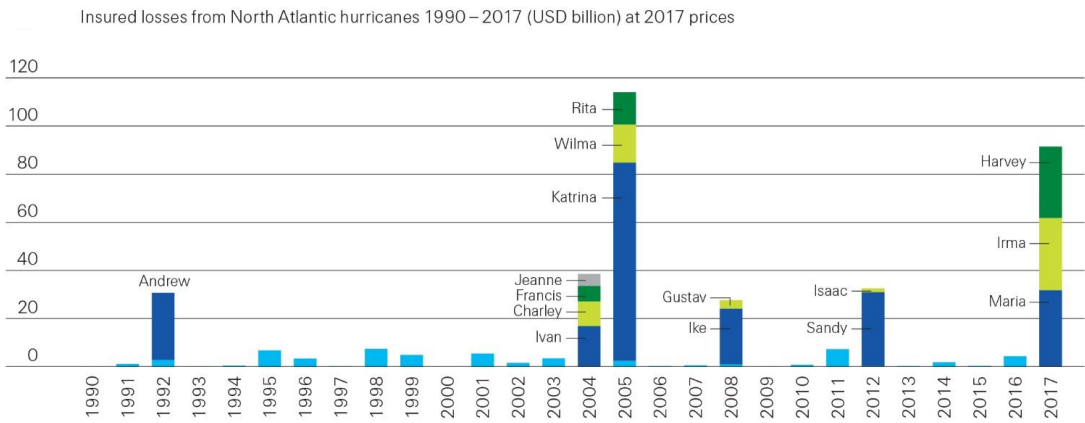
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Insured losses in 2017: USD 144 billion, highest ever



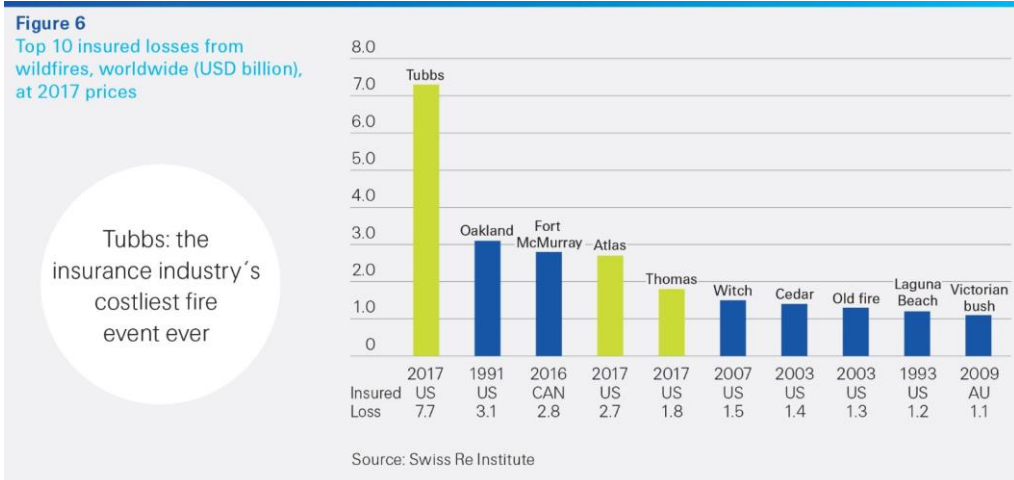
2017 hurricane season: second costliest ever



Source: Swiss Re Institute



Tubbs: the insurance industry's costliest fire event ever on *sigma* record



Tubbs: the insurance industry's costliest fire event ever



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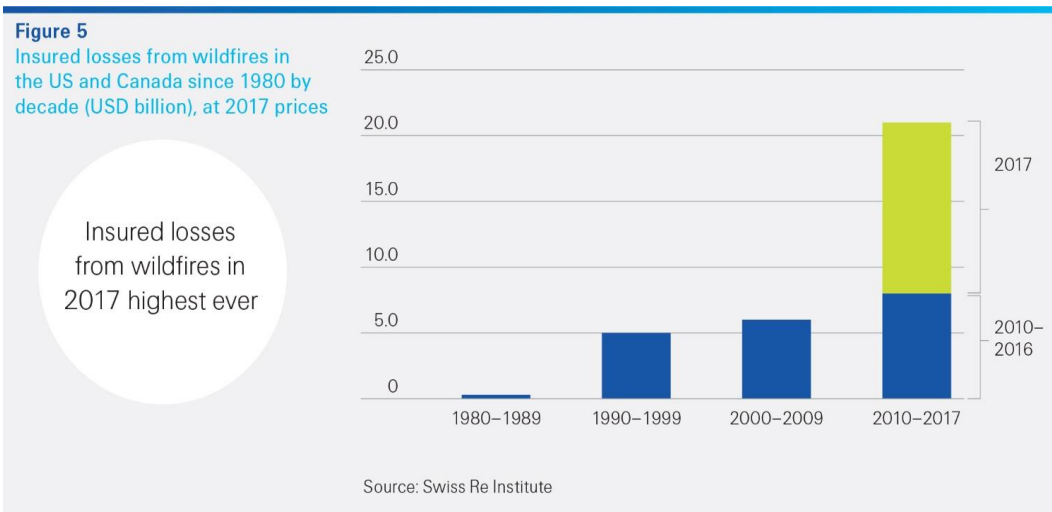
2017 Cat season: unprecedented but not unexpected?

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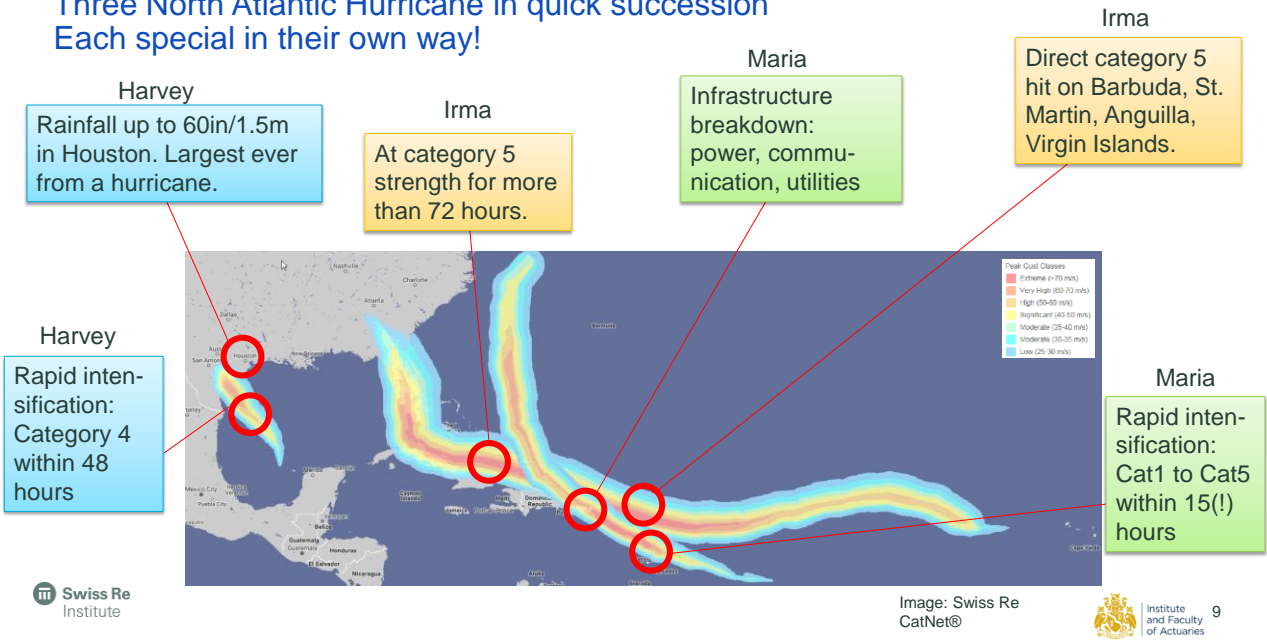
Wildfires: a burning issue for insurers?



Record-breaking insured losses from wildfires in 2017



Hurricanes Harvey – Irma – Maria:
Three North Atlantic Hurricane in quick succession
Each special in their own way!



A foreseeable cluster of events?

Major hurricane development depends on a fickle balance of various factors:



- Ocean temperature**
- Humidity**
- Wind shear (seasonal)**



- Initial disturbance**
- Ventilation**
- Wind shear (weekly/monthly)**

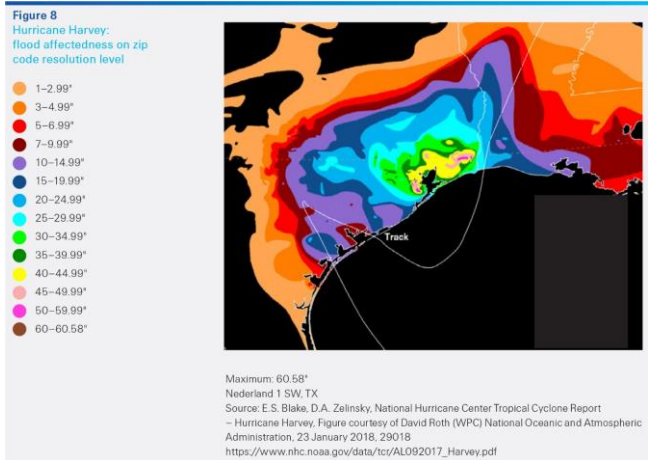
More research on clustering of intense hurricanes is crucial

Global warming / climate change

Were the HIM storms more severe because of global warming?

Climate model projections, year 2100

- higher sea levels
- less overall, but more high-intensity tropical cyclones
- more extreme precipitation events

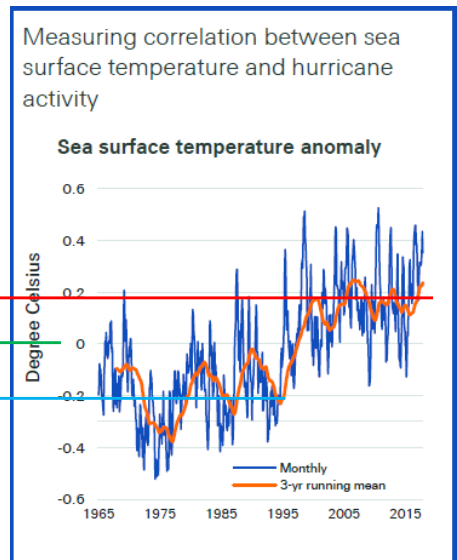


Climate variability

Is the long-term average hurricane activity commensurate with today's risk?

Atlantic multi-decadal oscillation (AMO)

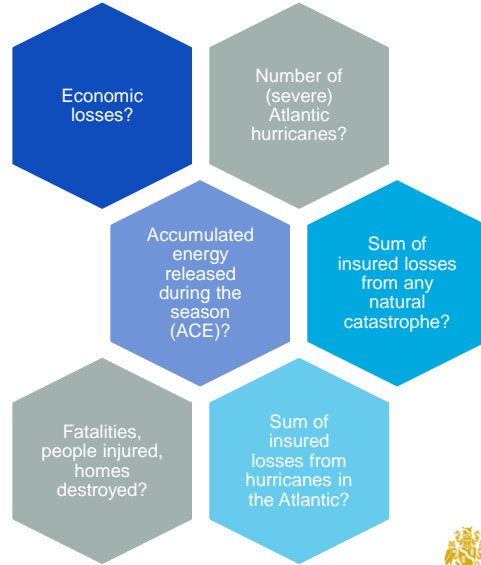
- Atlantic hurricane activity correlated with sea surface temperatures
- Driving mechanisms: atmosphere dynamics, ocean dynamics, aerosol amount
- AMO index by NOAA¹ remains strongly elevated



¹ see National Oceanic & Atmospheric Administration, <https://www.esrl.noaa.gov/psd/data/timeseries/AMO/>

How often does a HIM-like event cluster happen?

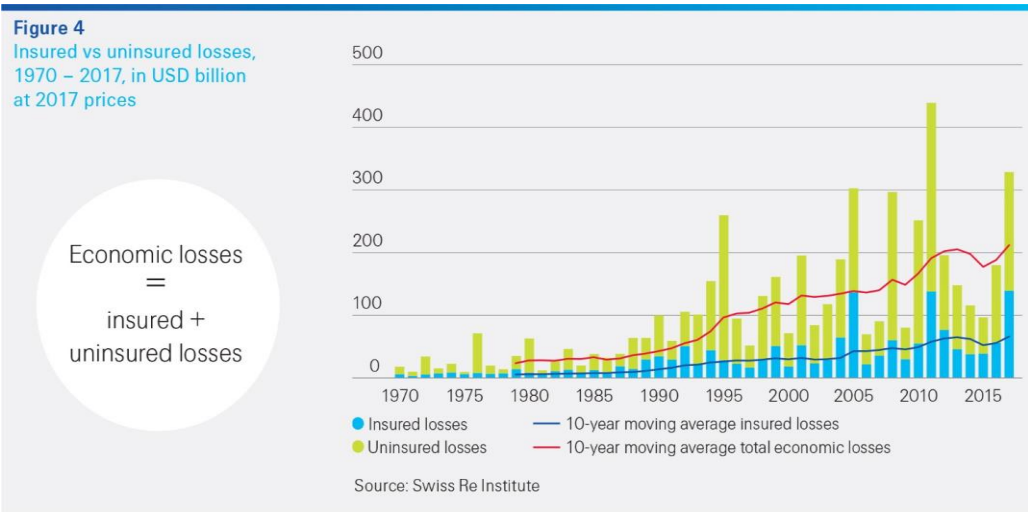
It depends on what we look at...



How often does a HIM-like event cluster happen?



Uninsured losses from catastrophes in 2017: USD 193 billion



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